Welding International 2014 vol.28 N7, pages 557-561

Formation of the equivalent heat source for calculating strains in structures in electron beam welding

Yerofeyev V., Logvinov R., Nesterenkov V., Mazo A.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

A method for determining the distribution of the power of an equivalent source, based on the numerical solution of the inverse heat conductivity problem, is described. It is shown that the equivalent source can be used for solving the thermal-strain problems in the MARC package, in which it is sufficient to describe in the special sub-program the movement of the line of action of the beam inside the finite element mesh and calculate the distribution of the power for the mesh parameters. © 2013 © 2013 Taylor & Francis.

http://dx.doi.org/10.1080/09507116.2013.840042

Keywords

capacity, cross-section of seam, electron-beam welding, heat source